Transportation

The region experienced an increase in the share of drive-alone commuting as well as in highway fatalities.

Transportation

Highway Use and Congestion

Why is this important?

Highway congestion causes delays affecting personal mobility and goods movement and results in increased economic and social costs. In addition, congestion impacts the region's air quality. The number of vehicle miles traveled (VMT) indicates the overall level of highway and automobile usage, and is directly related to mobile source emissions.

How are we doing?

Between 1992 and 2002, the SCAG region (particularly Los Angeles and Orange counties) consistently ranked as the most congested metropolitan region in the nation. Congestion level is measured by indicators such as travel time or annual delay per traveler. For example, in 2002, a traveler in Los Angeles/Orange counties during the peak period spent 77 percent more time than if traveling at free-flow speed (Figure 41).

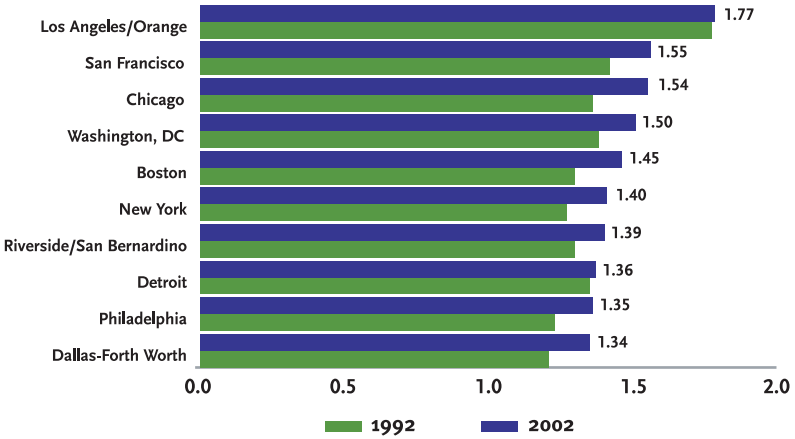
At 1.77 in 2002, the travel time index of Los Angeles/Orange counties was the highest among the major metropolitan areas in the nation. The San Francisco Bay Area had the second highest at 1.55. Riverside/San Bernardino counties, with an index of 1.39 in 2002, ranked 7th highest among major metropolitan areas.

Though Los Angeles/Orange counties had the nation's highest congestion level, their travel time index increased little between 1992 and 2002, while other metropolitan areas experienced much larger increases in congestion levels. During this period, the travel time index in Los Angeles/Orange counties rose very slightly from 1.76 to 1.77, while it increased from 1.41 to 1.55 in San Francisco and from 1.35 to 1.54 in Chicago. Significant investment in transit (e.g. the Red Line and light rails) and HOV system between 1992 and 2002 contributed to holding the congestion level in Los Angeles and Orange counties. The travel time index in Riverside/San Bernardino counties increased from 1.29 to 1.39 during the 10-year period.

In 2002, a traveler in Los Angeles/Orange counties during the peak period experienced a total of 93 hours of delay, again the highest among the major metropolitan areas in the nation. A traveler in Riverside/San Bernardino counties experienced a total of 57 hours of delay, the 5th highest among major metropolitan areas (see Figure 78 page 112). In addition, total cost incurred due to congestion in the SCAG region was more than $12 billion in 2002, significantly higher than any other metropolitan region (see Figure 79 page 112).

Figure 41

Travel Time Index by Metropolitan Area



** Travel time index is the ratio of peak period travel time to free flow travel time.*
Source: Texas Transportation Institute

In 2003, total daily vehicle miles traveled (VMT) in the region reached over 414 million, which was only slightly higher (0.3 percent) than in 2002.[1] In 2003, more than 26 million VMT was from trucks. By 2030, truck VMT in the region is projected to almost double from its 2003 level. Examples of freeways with heavy truck traffic include the I-710, SR-60 and I-15.

Since 2000, daily VMT increased only about 4.5 percent, less than the 6 percent increase in population. Between 1990 and 2000, total VMT increased about 13 percent, a sharp decline from the 71 percent growth during the 1980s.[2] The rate of VMT increase since 2000 was comparable to that during the 1990s. One factor that contributed to the recent slower growth of total VMT is the decline of automobile ownership rates, contrary to the increasing trend at the national level. For example, between 1991 and 2001, the number of vehicles per licensed driver declined throughout the region while it increased nationally.[3]

About half of the daily VMT took place on the region's freeway system, and the other half on the arterial system.[4] Peak period congestion on the arterial street system occurs generally in the vicinity of activity centers, at bottleneck intersections, and near many freeway interchanges.

As to distribution of trips during the day, the afternoon peak period (3 p.m. to 7 p.m.) had the heaviest concentrated travel, 30 percent of total daily trips. The morning peak period (6 a.m. to 9 a.m.) accounted for 22 percent of total daily trips. As to the distribution of vehicle (driver) trips by purpose in the region, about 27 percent were home-work trips and 14 percent were home-shop trips. Home-other trips accounted for about one-third of total vehicle trips. The remaining one quarter of vehicle trips consisted of other-work and other-other trips. The distribution of trips during the day and by purpose were quite consistent across counties in the region.[5]

The amount of travel people do and the way they travel are strongly related to the availability of personal vehicles in their households. Persons in households without a vehicle tend to make fewer trips and travel shorter distances each year than people in households with at least one vehicle available. Specifically, persons in households without a vehicle traveled less than half of the person-miles traveled by those in households with at least one vehicle. About a third of households in the region had one personal vehicle for use in 2003. Another 37 percent of households had two vehicles and close to 21 percent had three or more. However, close to 9 percent of households (463,000) had no vehicle available for use. Very low income households with less than $25,000 are much more likely not to have a vehicle compared to those with higher incomes. Within the region, Ventura County had the most vehicles per household (1.97) while Los Angeles County had the least (1.58).[6]

Highway Fatalities

Why is it important?

Transportation accidents are the ninth leading cause of death in the United States. Highway accident fatalities, about 42,600 deaths in 2003, account for about 95 percent of transportation-related deaths. Highway accidents are the leading cause of death for people between the ages of 4 and 33.[7] Highway accidents also accounted for close to half of the total annual delay from the region's highway system.

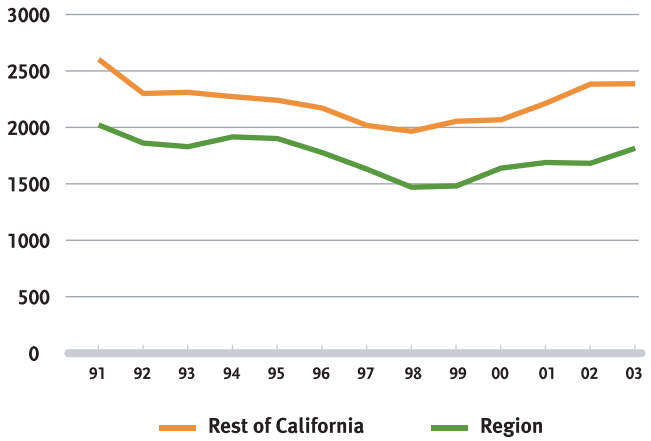
How are we doing?

In 2003, motor vehicle crashes in the region resulted in 1,815 fatalities (almost 5 deaths per day), the highest since 1995 (Figure 42). This was a significant increase (8 percent) from the 1,682 fatalities in 2002. For the rest of California, there was almost no increase in the number of highway fatalities between 2002 and 2003. At the national level, total number of highway fatalities actually decreased from 43,005 deaths in 2002 to 42,643 deaths in 2003, about a 1 percent decline.

Since the passage in 1992 of the state law requiring seat belt use, the number of highway fatalities in the region had been generally declining till 1998, achieving a 27 percent reduction (or almost 400 fewer deaths) during the period. However, since 1998 the number of fatalities in the region has seen an upward trend.

In 2003, according to statewide data, about half of the fatal collisions were caused by drunk driving or involving alcohol. Also among the total fatalities, about 47 percent of victims did not wear seatbelts. Close to 80 percent of highway fatalities involved occupants of passenger cars and light trucks. The remaining fatalities included primarily pedestrians, motorcyclists, bicyclists and large truck occupants.

Figure 42
Highway Accident Fatalities

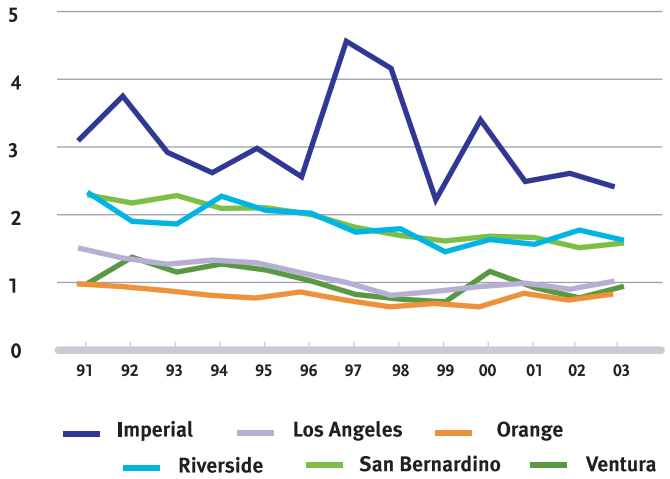


Source: California Highway Patrol with 2003 preliminary data

With respect to highway fatality rates, the six counties in the region were in three distinct groups. Imperial County has consistently had the highest highway fatality rates partly due to its also having the fastest average speed. The Inland Empire (Riverside and San Bernardino) counties shared similar fatality rates, though lower than Imperial County's. Finally, the three coastal counties (Los Angeles, Ventura and Orange) also share similar fatality rates. Partly due to congestion and lower average speed, theirs were lower than the fatality rate for the Inland Empire.

Between 2002 and 2003, highway fatality rates increased in Los Angeles, Orange, San Bernardino and Ventura counties while decreasing in Imperial and Riverside counties. (Figure 43). *In 2003, the region's highway accident fatality rate at 1.2 persons per 100 million vehicle miles traveled was significantly higher than the national average (0.94 persons per 100 million vehicle miles traveled) for urban areas.*[8] *The highway fatality rate in the region in 2003 was also the highest since 1997.*

Figure 43
Highway Accident Fatalities
(Per 100 Million Vehicle Miles Traveled)



Source: California Highway Patrol
** 2003 data is provisional*

Transit Use and Performance

Why is this important?

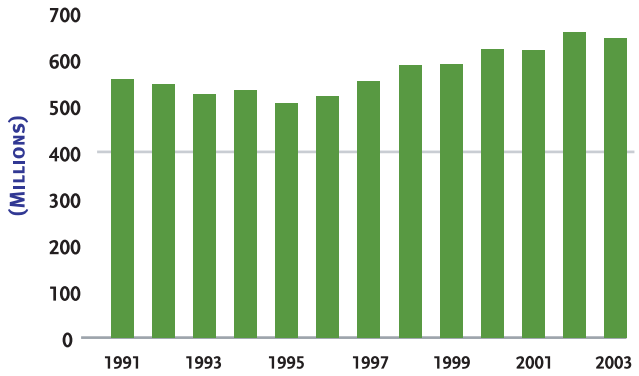
Use of public transit helps to improve congestion problems and air quality and decrease energy consumption. Reliable and safe transit services are essential for many residents to participate in economic, social and cultural life in Southern California. Annual transit boardings measures transit use at the system level, while transit trips per capita provides a measure of transit use at the individual level.

How are we doing?

During the fiscal year ending June 30, 2003, total transit boardings in the region reached almost 660 million based on preliminary estimates. *This represented a decline of about 2 percent from Fiscal Year 2002* (Figure 44). The decline did not include the effect of the Los Angeles County Metropolitan Transportation Authority (MTA) bus labor union strike, which resulted in 35 days without transit services in late 2003.

Among the total boardings in FY 2003, 54 percent (or 356 million) were for the MTA bus system. Almost 10 percent (or 64 million) were for the MTA rail system, including the Red, Blue and Green Lines. Between FY 2002 and FY 2003, total annual boardings declined within the MTA's bus and rail systems prior to the labor strike, from 366 million to 356 million (or 2.7 percent). During the same period, boardings for the Red Line declined from 34.6 to 31.7 million (or 9 percent), and for the Blue Line from 23.3 to 21.8 million (or 6 percent).

Figure 44
Transit Boardings - All Major Operators



Source: National Transit Database and SCAG including preliminary estimates for 2003 data.

Within the variety of transit services, Bus Rapid Transit is an important option for improving mobility in the most urbanized parts of the region. In June 2003, two additional Bus Rapid Transit services were initiated on Florence Avenue and Van Nuys Boulevard in Los Angeles County, joining the services on Whittier/Wilshire, Ventura Boulevard, South Broadway and Vermont Avenue. In July 2003, the new Metro Gold Line also began light rail service between downtown Los Angeles and Pasadena.

On an average weekday, about 30 percent of all transit trips were home-work trips while 47 percent were home-other trips. In Imperial County, however, only 3 percent of all transit trips were home-work trips, significantly below the regional average of 30 percent. There were also variations among the six counties as to the use of transit for home-shop trips. For example, the share of transit trips for home-shop purpose was much higher in Imperial (23 percent), San Bernardino (18 percent) and Ventura (17 percent) counties than the regional average of 11 percent.[9]

Transit trips per capita declined slightly from 38 in 2002 to 37 in 2003, which was still a little higher than the 1990 level of 36. The region's transit system is experiencing substantial overcrowding on a number of core urban bus routes while it has significant excess capacity on most off-peak and peripheral routes.[10] Transit service utilization as measured by seat miles available is generally less than 35 percent, except for the light rail with close to 60 percent utilization. To promote transit ridership, it is important to promote transit-supportive land use strategies. These include more transit-oriented development, exploring strategies to improve travel time and intercounty transit services, and pursuing innovative funding, among others.

Journey to Work: Travel Time

WHY IS THIS IMPORTANT?

Though the share of work trips among total trips has been declining, work trips continue to generate disproportionately higher impacts on the regional transportation system. Work trips tend to take longer than other daily trips. In addition, commute hours are generally the period with the most traffic congestion. Accordingly, transportation investments are still influenced significantly by the nature of work trips. Finally, the choice of residential location is partly determined by the location of work and the associated journey to work.

HOW ARE WE DOING?

Between 2000 and 2003, average travel time to work remained almost unchanged in the region, state and nation. In 2003, average travel time to work in the region was about 28 minutes. This continued to be higher than the state (27 minutes) and national (24 minutes) averages.[11] In 2003, workers in Riverside County continued to have the highest average travel time to work in the region, 31 minutes.

Journey to Work: Mode Choices

Why is this important?

Single-occupant vehicle use accounts for the highest level of land consumption among all transportation modes. It also generates the highest level of environmental, economic and social impacts. Increasing the use of alternative modes to work (e.g., carpool, transit, etc.) is critical to accommodate future growth with less environmental, economic and social impacts.

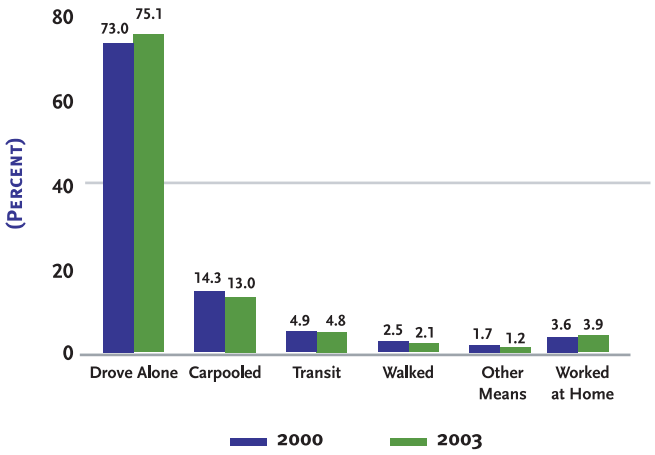
How are we doing?

Based on the 2000 Census, among the nine largest metropolitan regions, the SCAG region had the highest rate (15 percent) of workers who carpooled to work and the third lowest rate (5 percent) for using transit to get to work. *From 2000 to 2003, there was a decrease in the region's carpooling share (-1.5 percent) and an increase in the share of drive-alone commuting (2 percent)* (Figure 45). This was similar to the trend at the national level though the magnitude of decline was a little larger in the region. Between 2000 and 2003, the region's share of using public transit among work trips (5 percent) remained unchanged.

Within the region, Orange County experienced the largest decline in carpooling share, dropping from 13 percent to 10 percent between 2000 and 2003. The Inland Empire (Riverside and San Bernardino counties), however, maintained their carpool share at 16 percent, the highest in the region.

In 2003, about 3.9 percent of workers in the region worked at home instead of commuting to workplace. About half of these were self-employed and worked exclusively at home. On average, workers who worked at home were older than those working outside the home. In addition, about one-third were in professional and service industries.

Figure 45
Mode Choice to Work
(Workers 16 Years and Over)



Source: U.S. Census Bureau, American Community Survey

Airports

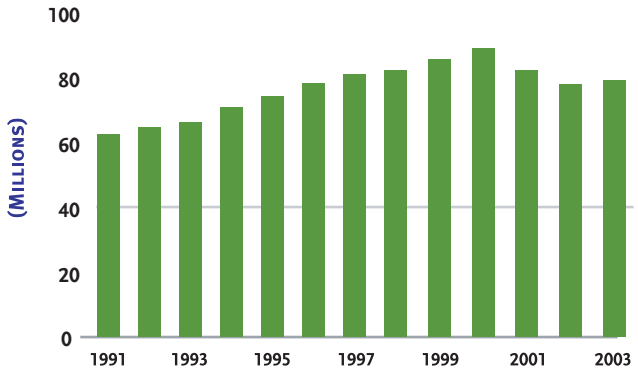
Why is this important?

Air transportation is vitally important to the regional economy of Southern California. Because of its geographical location, Southern California relies heavily on air transportation services to access and interconnect with domestic and foreign markets. For example, airborne exports accounted for about 50 percent of the total value of commodity exports out of the Los Angeles Customs District (LACD) in 2003.[12] Adequate aviation capacity and quality services are essential to the tourism, business, and trade sectors of the regional economy.

How are we doing?

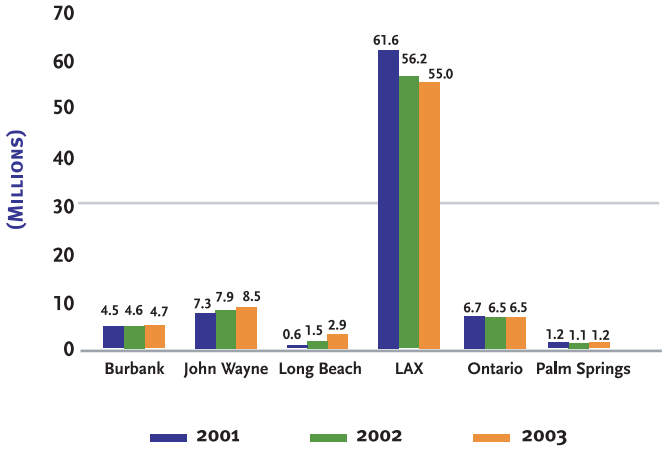
In 2003, total air passengers in the region experienced a 1.1 million increase reaching almost 79 million (Figure 46). *Though the increase was very modest, it was an important*

Figure 46
Air Passenger Traffic at Major Airports



Source: Data gathered from airports

Figure 47
Air Passenger Traffic by Airport



Source: Data gathered from airports

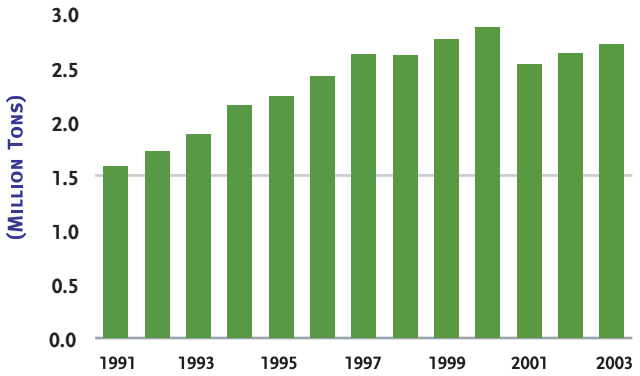
turnaround from the record losses of 11 million air passengers in 2001 and 2002 combined. Nevertheless, total air passengers in 2003 were still below the 1997 level. Among the 79 million passengers, about 64 million (or 81 percent) were domestic while 15 million (or 19 percent) were international.

Among the airports in the region, Long Beach Airport experienced the most dramatic increase of 1.4 million passengers in 2003, almost double its total from the previous year. John Wayne Airport also increased by more than 0.6 million or 13 percent. Only Los Angeles International (LAX) suffered (for the third consecutive year) a decline of 1.2 million, however, it was much less severe than the 5 million losses during 2002. (Figure 47).

Total air cargo in the region increased by 3.3 percent and reached over 2.7 million tons in 2003. This was a little less than the 3.7 percent increase during the previous year and was still significantly below the 5.4 percent average annual growth rate between 1970 and 2000 (Figure 48). Close to three-quarters of the region's air cargo traffic went through LAX while another 22 percent went through Ontario Airport. In 2003, the total increase in air cargo was almost evenly split between LAX and Ontario. By 2030, total air cargo in the region is projected to reach 8.7 million tons, more than triple its 2003 level.[13]

In 2003, among the ten largest airports in the world, LAX ranked 5th in passenger traffic behind Atlanta, Chicago, London and Tokyo (see Figure 80 page 113). LAX also ranked 6th in total cargo volumes following Memphis, Hong Kong, Tokyo, Anchorage and Seoul (see Figure 81 page 113). In 2003, Seoul Airport surpassed LAX to rank 5th place in total cargo volume.

Figure 48
Air Cargo in the Six Largest Airports



Source: Data gathered from airports

Ports

Why is this important?

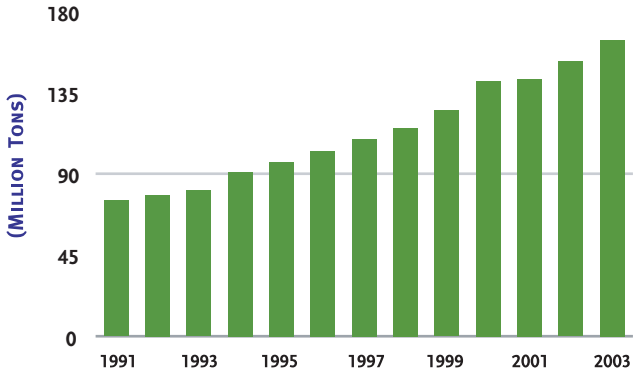
Almost 85 percent of the imports coming through the Los Angeles Customs District (LACD) arrive at the region's ports.[14] Continuing to provide a world-class port infrastructure is critical to sustaining a growing and prosperous regional economy.

How are we doing?

Total traffic at the Ports of Los Angeles and Long Beach increased from 152.2 million tons in 2002 to 164 million tons in 2003, a 7.7 percent increase (Figure 49). Close to 86 percent of all cargo shipments at the twin-ports were through containers. Between 2002 and 2003, traffic at Port Hueneme, however, declined slightly from 3.6 to 3.4 million tons.

In 2003, the Los Angeles/Long Beach port complex continued to rank third in the world in container traffic (11.8 million TEUs – twenty-foot equivalent units) following Hong Kong (20.4 million) and Singapore (18.1 million).[15] By 2025, total container traffic is projected to almost triple its 2003 level, reaching more than 30 million TEUs.[16]

Figure 49
Port Cargo at Los Angeles and Long Beach



Source: Los Angeles Economic Development Corporation

The twin-ports also maintained their dominant role among West Coast ports, attracting almost 58 percent of the total traffic in 2003. The continuing dominance of Ports of Los Angeles and Long Beach is partly due to their large regional market as well as better rail service to the Midwest and Southeast from Southern California than from other Pacific coast locations.